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ABSTRACT

A program based on the personalized system of instruction (PSI) was written and used in a developmental reading-study skills course for college freshmen. The following principles characterize the PSI: emphasis on the use of written materials--textbook references, questions, and teacher-developed worksheets; the required passing of a mastery test before proceeding to the next module; self pacing for each student; lectures and class activities that are sources of motivation and of critical information; and the use of paraprofessionals, students, or peers in the class as proctors in correcting mastery tests and related materials. Student response to the course was positive and prompted a refining of the program. (HAI)

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A Self-Paced College Developmental Reading Program using PSI (Personalized System of Instruction)

> Pioneered by Dr. Fred S. Keller in the early 60's, the Personalized System of Instruction (PSI) has become so successful that the Fund for the Improvement of Post-Secondary Education helped establish the Center for Personalized Instruction at Georgetown University for the purpose of disseminating the model nationally.... The summary of evaluative data is very impressive. The model was designed with classes of 60 and more in mind and is cost effective. (3)

This paragraph in the Metropolitan State College Roadrunner of February 28, 1977 introduced our faculty to PSI. It was followed by a voluntary workshop in mid-April, conducted by the author of the article, Dr. Catherine M. Warrick, Dean of Experimental Studies.

Twenty-two faculty gathered, expecting the usual ho-hum lecture on the oft-repeated theme of the need for more individualization of instruction suited to our older, urban, goal-oriented students. Instead, each faculty member was provided with a notebook of materials, shown a brief introductory film, and given a schedule of required activities for the next day and a half which was both startling and overwhelming.

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Many models were presented as examples of PSI units that could fit into a classroom situation. The Reading Department decided that RDG 104: Improvement of Reading I, an introductory, elective, developmental reading-study skills course for college freshmen was the ideal course in which to try the PSI model. Dr. Steiner, who attended the workshop, volunteered to write the modules and to attend a 2-week workshop in July which would be entirely devoted to learning about PSI and developing course materials.

The PSI modules were tried for the first time Fall semester, 1977, in two RDG 104 courses. As part of the evaluation of the program, the department chairman, Dr. Yuthas, interviewed a random sample of students enrolled in the course. The response of the students to this new approach was so enthusiastic and positive that she decided to teach a PSI section of RDG 104 Spring semester 1978 working with Dr. Steiner who was revising the modules and refining the program.

History of PSI

PSI originated in higher education at the University of Brasilia and later at Arizona State University. PSI seems to have succeeded so well because the developers, F. S. Keller and J. G. Sherman, were psychologists firmly grounded in learning-reinforcement theory and because PSI differs from programmed instruction. The modules are not "frames" but are more like conventional college homework assignments. (1) This is not so innovative as to frighten college professors nor so different that it requires complete revision or reorganization of course materials.

Basic principles of the personalized system of instruction

There are five fundamental characteristics of the Personalized System of Instruction. (2)

1) Emphasis on written material

Material in PSI modules is written in packets. These may include references to a standard textbook in the field, handouts from other sources, materials developed by the instructor, worksheets to be handed in for correction, questions to be discussed, or other written materials.

2) Emphasis on mastery

The instructor divides the course content into logical units. The number and size of units varies among disciplines but a good rule of thumb is one unit for each week of the term. A unit consists of: 1) an outline of the contents of the module; 2) objectives of the module stated in behavioral terms; 3) procedure with directions to the student for completing the various parts of the module; 4) items to be brought to the instructor or proctor when asking to take a mastery test; and 5) assignment sheets to be completed. At MSC items which are checked at the time of the mastery test may include the lab folder showing work completed outside of class in the Reading Laboratory, evidence of satisfactory completion of assignments included in the module, a check-out sheet signed by a reading laboratory assistant certifying that the student has demonstrated proper use of various pieces of laboratory equipment, or the course textbook if the reading assignment is to be discussed with the proctor. Module II requires an individual conference between the student and the instructor, so the conference sheet must be completed and brought to the Unit II mastery test.

In order to advance to the next unit, a student must demonstrate 85% mastery of the preceding unit. A student may retake a test as many times as necessary to reach the desired level of mastery. At MSC we have found that 2 forms of each mastery test are adequate in almost every case. If not, the student discusses the content of the unit with the instructor or a proctor until an appropriate level of mastery is demonstrated.

3) Student self-pacing

There are both problems and benefits associated with PSI and the mastery concept. Habitual A students sometimes resent the fact that anyone may get an A. College administrators concerned with grade inflation and the normal curve sometimes express concern when the distribution shows 55% A's and 5% C's. Students who are not self-starters sometimes withdraw because they procrastinate and cannot complete the required number of modules in one term. We have found that none of these problems are insurmountable.

The benefits seem obvious. The emphasis is on learning rather than teaching. Differences in rate of learning are accommodated. Students who complete the course have mastered the material, rather than half-mastering half of the material, as in the case of C or D students in the ordinary classroom. Students can study for and take examinations when they are most ready. This is a special advantage in an urban institution such as ours where more than 90% of the students work. Family and job commitments may interfere with success in courses where the examination dates are rigidly set by the instructor.

When events occur, as they often do, in a student's life which make effective study impossible, the student in a PSI class may delay a test until mastery of the material is complete or take it early to space deadlines more conveniently during the semester.

4) Lectures, films and demonstrations are sources of motivation as well as critical information.

Students who are doing well in a PSI course may be allowed to attend classes on an optional basis. Class time is used for working through modules, discussions with teacher or proctor, taking and discussing mastery tests, and exercises designed to add interest to the class or to present material which may be useful to individual students but is not covered in modules. For example, at MSC, optional materials include: tapes for listening and note-taking to improve taking of class lecture notes, rate exercises to increase skimming or scanning skill, reading an article such as "The Lottery" and discussing it critically, practice with using the SQ3R method with the student's textbooks from other classes, and the like.

5) The use of proctors

Proctors may be para-professionals hired for this purpose or peer-tutors. In most institutions of higher education, money is rarely available for teacher aides. At MSC, students enrolled in the course, who have passed a mastery test, may score and discuss another student's mastery test on that unit. Fall semester, students were sometimes reluctant to proctor because they wished to move on into their own next unit. This semester, students may earn 1 point for testing another student, with a maximum of 2 points

per unit. These points may be added as needed to vocabulary tests, mastery review tests, or the final examination, which may not be re-taken. The learning that accrues to the peer-proctor while scoring another student's test seems to internalize the content so well that extra points are not needed on the final test. However, most students see their extra points as "insurance," and thus we have ample help in scoring and discussing mastery tests. An additional benefit is that the peer proctors, having recently completed the unit, can often explain material from the student's point of view very effectively.

Anti-procrastination measures

1. Use short units with very clear materials
2. Vary the format of the modules, make material interesting, keep the student active.
3. Require attendance at first, let students earn the privilege of optional attendance.
4. Prepare an alternate final exam for those who finish early. Allow them to take the regular final exam to raise their grade.
5. Don't mention the possibility of a grade of Incomplete for the course.
6. Don't overload the course. Remember, mastery learning helps overcome the curve of forgetting, and there is a difference, too, between material "covered" and material "learned."

Summary

Good course management, time to develope effective modules, selection of interesting supplementary course activities and flexibility are essential if you are to use the Personalized System of Instruction. For further information on the PSI Developmental Reading Course described here write Dr. Nancy Steiner, Metropolitan State College, Box 17, 1006-11th Street, Denver, Colorado 80204.

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